

Applicants: Wayne A. Hendrickson et al.  
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REMARKS

Claims 21, 22, 26, 27, and 48, 50, and 51 are currently pending in the subject application. Applicants have hereinabove amended claims 48 and 50. Applicants maintain that the amendments to the claims raise no issue of new matter. Support for the amendments to claim 48 can be found in the specification as originally filed at, *inter alia*, page 37, lines 1-13; at page 9, lines 3-5; page 37, lines 15-17; page 10 lines 3-30; page 73, line 15; page 2, lines 7-22; page 3, lines 1-2; page 9, lines 3-4; and page 10, lines 25-26. Support for the amendments to claim 50 can be found in the specification as originally filed at, *inter alia*, page 9, lines 3-4; and page 39, line 21 to page 41, line 2. Accordingly, applicants respectfully request entry of this Amendment. Upon entry of this Amendment claims 21, 22, 26, 27, 48, 50, and 51 will be pending and under examination.

Claims Rejected Under 37 C.F.R. §112 - Second Paragraph

In the August 26, 2003 Office Action, the Examiner stated that claims 21-22, 26-27, 48, and 50-51 are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, has possession of the claimed invention. The Examiner further stated that claim 48 is amended to recite "kit receptor" in Paper #19. The Examiner stated that the term "kit receptor" is interpreted as being the receptor to which kit binds. The Examiner stated that however, the specification only describes that SCF is the ligand that binds to its receptor, kit (see pages 2-5). The

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Examiner stated that it does not describe another receptor that kit binds to, and thus, this newly added claim limitation is considered as a new matter. The Examiner stated that claims 21-22, 26-27, and 50-51 are rejected due to their dependency from claim 48 and thus containing the new matter.

In response, without conceding the correctness of the Examiner's position, and in order to expedite prosecution, applicants have hereinabove amended claim 48 to remove the term "Kit receptor" and replace it with the term "Stem Cell Factor receptor" which is recited in the specification. Accordingly, applicants respectfully request that the Examiner, reconsider and withdraw this ground of rejection.

**Claims Rejected Under 37 C.F.R. §103(a)**

The Examiner stated that claim 48 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mohammadi et al., WO 98/07835. The Examiner stated that this rejection is reiterated from the previous Office Action and maintained for reasons of record. The Examiner stated that applicants' arguments filed 6/13/03 have been fully considered but they are not persuasive. The Examiner stated that applicants argue that the reference does not teach all the limitations of the claimed invention, e.g., a fragment of SCF. The Examiner stated that this is not deemed persuasive. The Examiner further stated that as set forth in the previous Office Action, Mohammadi et al. shows in the abstract and throughout a method of performing a computer analysis of using the structural coordinates of a protein kinase to identify an agent that binds to and modulate the protein tyrosine kinase. The Examiner also stated that the instant claims are drawn to a same method except that the coordinates of

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structure in the instant claims are for a different protein kinase. The Examiner stated that as set forth earlier, the coordinates are considered as non-functional descriptive material because the content of the structure coordinates of a protein or protein complex does not alter how the computational method functions, i.e., the structural coordinates of the protein does not limit the claimed method to perform different steps that the method of Mohammadi et al. The Examiner stated that therefore no patentable weight is given to the structural coordinates of the protein in the claimed method.

In response, applicants respectfully traverse the Examiner's rejection. Applicants note that factors and considerations dictated by law governing 35 U.S.C. §103 apply without modification to computer-related inventions (MPEP §2106, (IV)). Accordingly, all claim limitations must be taught or suggested by the alleged prior art. Applicants further note that Mohammadi et al. does not teach a general computer-related method of determining a molecule that will bind to another preselected molecule upon input of the appropriate data, wherein the data is atomic coordinates. In fact, Mohammadi et al. teaches a method of determining particular tyrosine kinase modulators. Mohammadi et al. does not teach Kit, and nor does it teach the fragment of SEQ ID NO:1 from which the atomic coordinates must be obtained, as recited in step (a) of claim 48. Moreover, since SEQ ID NO:1 is a necessary element of the claim, the claimed method cannot be performed absent knowledge of SEQ ID NO:1. In the absence of a teaching of SEQ ID NO:1, not all the elements of the claim are taught, and there is no reasonable expectation of success. In short, Mohammadi et al. does not teach or suggest a method that can determine a compound capable of binding to the SCF-binding site of Kit. Accordingly, the cited reference does not teach all

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the elements of the claimed invention.

Applicants further note that the subject matter is not merely a computer calculation. For example, step (b) of claim 48 requires identifying a Kit-binding site on the SCF ligand molecule based on the 3-D structure of the ligand molecule. There is no teaching in Mohammadi et al. of this element. Moreover, as stated by the Examiner in the August 26, 2003 Final Office Action, Mohammadi et al. teaches a method based on the 3-D atomic coordinates of the protein kinase itself, whereas step (a) of applicants' claimed method recites the atomic coordinates of not the protein kinase but of the protein kinase receptor ligand, in this case a fragment of SCF. There is no teaching in the cited reference why a computer program employing 3-D protein kinase receptor data to identify modulators could employ 3-D ligand data instead, nor why one would be motivated to try, and no reasonable expectation of success.

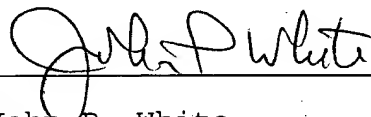
Thus, the cited reference cannot support a *prima facie* case of obviousness. Accordingly, applicants respectfully request that the Examiner, reconsider and withdraw this ground of rejection.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

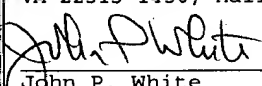
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No fee is deemed necessary in connection with the filing of this Amendment, other than the enclosed fee of \$420.00 for a two month extension of time. However, if any such fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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| I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Mail stop AF |      |
|  11/2/04                                                                                                                                                                   | Date |
| John P. White                                                                                                                                                                                                                                                 |      |
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